REMARKS

Reconsideration of the application is requested.

Claims 1 - 16 are now in the application. Claims 10 - 16 have been added.

The new claims are supported in the original claims 1 and 4-9. Claim 10 largely corresponds to claim 1, with the primary difference being the use of the expression "closed-loop control." Claim 16 is essentially a combination of the original claims 1 and 9.

Claim 3 has been amended in response to the Examiner's objection.

The term "closed-loop control" is based on the German expression "regeln" and "Regelung." The literal translation of the international application, which was originally filed and published in the German language, used the term "regulating" instead. While the expression is not entirely incorrect, the more typical technological expression is "closed-loop control." The fact that applicants indeed provide for a closed-loop control of the braking process is clearly corroborated in the drawing figure and in the corresponding description. There, the actual acceleration is derived from the velocity signal (by calculating dv/dt) and the setpoint acceleration is determined from the characteristic field 3. These two acceleration signals are input into the process unit 4, which determines the torque that is necessary to properly decelerate the train. The unit 4 may be a PI (proportional-integral) controller. The resulting torque signal is then sent to the drive to direct the drive to brake the vehicle appropriately.

The speed signal *n* is fed back to the input of the system, so as to repeat the foregoing calculations ($a_{act} = dv/dt$, $a_{step} = -kv^{-2}$). This system, of course, is a classic closed-loop control system.

This is also the main difference between the claimed invention and the prior art and, accordingly, we now turn to the art rejection. Claims 1-5 and 8 have been rejected as being anticipated by Kumar et al. (US 5,992,950 – hereinafter "Kumar") under 35 U.S.C. § 102. We respectfully traverse.

Kumar belongs to a related field of endeavor. Kumar describes a method and a device for braking a rail vehicle. As the engineer enters the braking command, the desired braking acceleration (i.e., deceleration) is combined in the combinatorial block 104 with the maximum possible braking. See, col. 7, lines 19-21. Kumar then continues:

> The value of braking effort, within the limits set by the block 102 and operator braking call signal, is established by a conventional type of proportional plus integral (PI) control circuit indicated by block 108.

Kumar, col. 7, lines 33-36. The reference, therefore, includes closed-loop control only within a sub-process, namely, in the control of the clamp.

The maximum possible deceleration depends, among other things, on the speed. The combinatorial block 104 of Kumar determines which portion of the maximum available braking is necessary in light of the engineer's command. This portion corresponds with the actual acceleration a_{act} of the instant application. In other

words, the reference teaches a simple way of setting a percent proportion of the maximum possible braking power.

Turning once more to the claimed invention, applicants instead regulate (i.e., by closed-loop control) the instantaneous acceleration. The applicable acceleration, or deceleration as it were, is constantly adjusted and it does not only depend on the command signal received from the engineer.

This process allows the rail car to be decelerated to zero with a very smooth deceleration curve exclusively by way of the electric drive. The smoothness of the curve is retained even at very low speeds.

The invention defined in claims 1 and 10 is believed to distinguish over the art of record.

The indicated allowability of claim 9 is appreciatively noted. It is greatly advantageous to continuously monitor acceleration and to do so by forming the derivative, with respect to time, of the speed. A speedometer, and a resultant speed signal, of course, are present in every rail vehicle that is equipped with a drive. The features of claim 9 and 16 are not in the prior art.

In summary, neither Kumar nor any other feference, whether taken alone or in any combination, either show or suggest the features of claims 1, 10, or 16. These claims are, therefore, patentable over the art and since all of the dependent claims are ultimately dependent on an allowable claim, they are patentable as well.

In view of the foregoing, reconsideration and the allowance of claims 1-16 are solicited.

If an extension of time is necessary for this paper, petition for extension is herewith made. Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

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